THE

HISTORY OF NINE CASES

OF

OVARIOTOMY.

BY

T. GAILLARD THOMAS, M. D.,

PROFESSOR OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK; PHYSICIAN TO BELLEVUE HOSPITAL.

[*FROM BELLEVUE AND CHARITY HOSPITAL REPORTS.*]

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It is now just sixty years since the operation of ovariotomy was first introduced to the medical profession by an American surgeon. Dr. Ephraim McDowell, of Kentucky, performed this operation in 1809, the patient recovering from it and living twenty-five years afterward. Since that period, the most constant and acrimonious discussion has been, until within a few years, kept up, as to the propriety, I may even say the legitimacy, of the procedure. In spite of all opposition, supported as it has too often been by unfair argument and absolute misrepresentation, the operation has steadily advanced, and at the present time has reached a position so sure and unassailable in the esteem of the profession, that no one who desires to see his name stand in the list of those who favor advance in medical science ventures to depreciate it.

It is true that here and there will be found those who even now declare that the procedure is one too hazardous in its steps and too fruitless in its results to warrant its adoption. But these will almost invariably be found to stand upon the same level with the men who systematically vilify the speculum and anæsthesia, and depreciate the value of the microscope and ophthalmoscope.

Although this be true, the operation of ovariotomy is as yet too recent not to require the light which can be thrown

upon it by honestly reported statistics, and by them alone. Amputation of the thigh has been so often performed, for so many years, and in so wide an extent of territory, that the surgeon who now performs it is excusable if he does not report every case for the critical examination of his peers. All questions as to the value and results of the operation are at rest; and, although statistics with regard to it will always be of value, the profession no longer demands them as essential for its ultimate position as a surgical resource. With ovariotomy it is otherwise. Every case should be carefully and frankly reported, in order that it may serve to swell the numbers from which conclusions, whether favorable or unfavorable to the procedure, are to be drawn.

There are many influences at work at present which tend to keep up the mortality attendant upon this operation. Some of these are inherent to the operation itself, and will always exist; others, as knowledge increases with experience, and the basis upon which it rests becomes more stable and assured, will greatly diminish or entirely disappear. First among these must be mentioned the necessity for cutting into the peritonæum, exposing this delicate and important structure for a long time, and often leaving vessels open upon its surface, or within its cavity, which pour out blood that serves as material for putrefaction. Second, the difficulty of diagnosis must not be lost sight of. It is safe to say that in no pathological condition for which surgical procedure is adopted, not excepting that of internal aneurism, is this difficulty equalled. But it is not my intention to enumerate all the influences to which I have made allusion, and I shall content myself with the mention of a third. The observation of others may not agree with mine, and many may dissent from what I am about to advance, but to me it stands forth clearly as an influence which has done, and is doing, much to injure the position of ovariotomy as a surgical resource. It is this: the operation of ovariotomy is at present often performed by men inexperienced in the diagnosis and treatment of ovarian tumors. The statistics of some of the best operators prove that they have been progressively successful, as they have advanced in experience, and learned to avoid the dangers attendant upon the pro-

cedure, and we must conclude that they who operate for the first or second time, must damage the array of reported cases and increase the rate of mortality. I know full well that it may be objected to this statement, that if inexperienced men never operated, where would our supply of new surgeons come from? In reply to this I would remark, that if the professional relations of any man make it likely that he will be frequently called upon to perform this or any other operation, he should prepare himself to meet the demand upon him; but I cannot think it incumbent on any practitioner, upon whom no such demand is likely to be made, to have performed one or two operations of ovariotomy. I sincerely believe, as the result of observation, that the third influence which I have stated as marring the statistics of the subject, is by no means an insignificant one. With these remarks, I proceed to the history of,

CASE I.—*Large single cyst, with numerous small ones at base, of eighteen months' standing; removal by ovariotomy; recovery.*

Eliza B., native of Ireland, aged thirty-five years, by occupation a child's nurse, of perfectly temperate habits, single, and previously in good health, consulted me on the 1st of November, 1863, on account of an abdominal enlargement which she supposed to be "dropsy." About eighteen months before the date which I have recorded, she was startled by observing an enlargement about the size of a child's head low down in the abdomen on the right side. At first she kept the fact secret, but so rapidly did the swelling increase, that she sought the advice of her mistress, who requested a neighboring physician to see her. The examination of this physician led the patient to believe that he suspected pregnancy, although he made no such statement, and, being of rather a morbid disposition, she subsequently refused to see him or any other physician, until she came under my observation.

When I saw her she was in good health, her color was good, appetite moderate, spirits not depressed, and pulse normal. She stated, however, that for three months she had been

losing strength and flesh gradually, and that she was becoming troubled in respiration.

Physical examination revealed a large globular tumor filling the whole abdomen, and evidently pressing upward against the diaphragm. Fluctuation was obtained readily and clearly. Over the anterior face of the mass, dulness upon percussion existed, and the intestines were found displaced upward and laterally. The uterus was elevated, and anterior to the tumor. Regarding the case as one of ovarian cyst, I informed the patient of my conclusion as to the diagnosis, and advised her at once to submit to the operation of ovariotomy. To this she readily consented, and all was made ready for its performance. A good room was procured for her, as well as a skilful nurse, and the 1st of December was appointed for the operation.

The operation was performed at half-past 12, P. M.; the weather was cool, snow having fallen heavily on the day previous, but clear and bracing.

I was assisted by Drs. T. A. Emmet, George T. Elliot, J. S. Thebaud, Foster Swift, and G. S. Winston. Dr. Winston having produced anæsthesia by Squibb's ether, the patient was placed on a table, and, after evacuation of the bladder, the operation commenced with an incision by a bistoury in the median line, midway between the umbilicus and symphysis pubis, involving the skin and adipose tissue. This incision was two and a half inches in length, my intention being to prolong it if I found it necessary to do so.

Having cut down to the fibrous expansion formed by the conjoined sheaths of the recti, this was picked up by a tenaculum, and a very small opening made by scissors into the peritonæum, and a grooved director inserted, upon which this fibrous sheath and the parietal peritonæum were slit upward by the bistoury. The sac was now exposed, presenting a white, shining, fibrous surface. A small amount of straw-colored serum escaped from the peritoneal cavity, the result of congestion of the vessels compressed by the tumor. The hands having been carefully washed in warm water, two fingers were now passed into the peritonæum and swept over the surface of the tumor, ascertaining the fact that no adhesions existed, at least in its upper part. Firm pressure being now

made on the sides of the incision, by the hands of an assistant, a large trocar and canula were plunged into the cyst. Upon the withdrawal of the trocar, there rushed from the canula with great violence a little less than six quarts of a fluid looking like the rinsings of a vessel which had contained milk, and having floating upon its surface some little pellets, like fat. The edges of the incision in the cyst were now seized by the fingers, and in this way the sac was drawn out of the abdominal cavity. It came forth without resistance, no adhesions existing. The cyst was a degeneration of the right ovary, and at its base the Fallopian tube could be distinctly traced. In addition to one large cyst, were discovered, upon inspection, six or eight small ones, about the size of pigeons' eggs, and one the size of the fœtal head was emptied as the large cyst was drawn forth.

A double thread of strong silver wire was now passed through the centre of the pedicle by means of a large needle, separated and twisted so as to ligate both sides of the pedicle, one of the ligatures encircling the right and the other the left portion. Another needle, similarly armed, was then passed at right angles to the first, and the two ligatures which it carried were disposed of in the same way. After this a strong ligature, composed of trout-line, was fastened above the silver ligatures, and the sac cut off by the bistoury just above it.

The abdominal incision was then closed by silver sutures one inch distant from each other. The pedicle was placed at the inferior angle of the wound, and kept from returning to the abdominal cavity by a darning-needle passed through it, and left with the point broken off and the extremities guarded by cork, at right angles to the pedicle, and flat upon the abdominal walls. A piece of patent lint, soaked in tepid water, was then laid over the wound, the whole abdomen covered with warm cotton batting, and an obstetric bandage applied with moderate tightness.

After the operation the pulse was found to be 76 to the minute, and as voluminous as before. The patient, who was not yet conscious, was then placed in a warm bed, hot bottles were put to her feet, she was covered carefully with warm blankets, and in fifteen minutes had ten drops of Magendie's

solution of morphine injected into the areolar tissue of the arm by the hypodermic syringe.

After this she slept quietly for between five and six hours. Upon awakening, she suffered slightly from nausea, but this soon passed off, the pulse rose to 96, but never went above it, and on the fourth day the bladder was emptied without the use of the catheter. The diet consisted almost entirely of milk for four days, when animal broths and farina-gruel were added to this. During the entire convalescence, pain and restlessness were quieted by the use of the hypodermic syringe; and pellets of ice, iced champagne and soda-water were freely given for the relief of the nausea which it created.

Seven days after the operation all the stitches were removed, except those immediately in contact with the pedicle, and on the eleventh day the patient, contrary to orders, sat up out of bed for a little while during the absence of the nurse. This produced no evil effect whatever; and on the next day the end of the stump was cut off, two remaining sutures removed, the abdominal bandage tightened, and the patient allowed to sit up for a short time. This was now repeated every day until she soon walked about the room.

At the time of writing this, it is six years since the operation, and I frequently see my patient in my visits to the children under her charge. She is in perfect health, and has never suffered from the operation, the only vestige of which is, a cicatricial line on the linea alba that is scarcely visible.

The fluid discharged from this sac was milky in hue, as I have said, and about six quarts in amount. Tested by heat and nitric acid, it behaved precisely like highly-albuminous urine, and, when rubbed between the fingers, gave the tenacious sensation experienced by smearing them with thin syrup and water. The specific gravity of this fluid was 1012.

CASE II.—*Fibro-cystic tumor, weighing* 17 *lbs., removed by abdominal section; death from shock in forty hours.*

Mary M., a native of Ireland, aged about thirty-two years, married eight years, never pregnant, applied to me in September, 1864, on account of an abdominal tumor accompanied by profuse menorrhagia. She stated that she had noticed an

enlargement of the abdomen about four or four and a half years before, but had paid no attention to it at first, as it gave her no inconvenience except mental anxiety on account of its presence. As it went on steadily increasing in size, however, she began to flow very freely at her menstrual epochs. This exhausted her to such a degree, and she had of late suffered so constantly from pain, distention, dyspnœa, and vesical irritation, that she strongly desired operative interference.

I kept the patient under observation for two months, endeavoring by palliative means to give her relief. At the end of this time, she and her husband urgently desired some more decided interference, and, as it appeared to me that her life would be sacrificed by the continuance of the symptoms which existed, I determined upon operating.

At this time, physical examination revealed a large globular mass in the abdomen, which appeared to yield fluctuation very perfectly. The intestines were pressed upward and laterally, and percussion over the whole anterior face of the abdomen yielded dulness. The uterus was normal in size, and to all appearance unattached to the tumor, a point which was carefully noted. Before operation, the patient was examined with me by Drs. Peaslee, Budd, and Loomis, all of whom agreed with me, that the case was one of ovarian cyst, that operation was legitimate, and that the prospect of recovery was ordinarily good.

The operation was performed in presence of Drs. Peaslee, Budd, and Loomis, the house-staff of Bellevue Hospital, and a large number of medical students, at 3 P. M., in a ward of Bellevue Hospital which had just undergone complete renovation, and which contained no other patients. An incision two inches in length was made over the median line, midway between the symphysis pubis and umbilicus. When the conjoined sheaths of the recti were reached, the operation was arrested until all oozing had ceased; then the sheath was caught up by a tenaculum, a small opening cut, a grooved director passed, and upon it a bistoury slid up so as to open the peritonæum. The anterior wall of the tumor being then exposed to view, a steel sound was dipped in warm water and passed around it in search of adhesions, but none were discovered.

Palpation of the tumor was now practised by myself and the gentlemen who aided me, and, as it appeared to us all certain that it consisted of a sac filled with fluid, I plunged in a large trocar and canula. To my surprise, instead of a gush of fluid, a free flow of blood occurred, and, withdrawing the trocar, I found that the tumor was not a sac filled with fluid, but a cystic sarcoma. The flow of blood from the deep wound made with the trocar was so free, that it was thought best not to abandon the operation, but to extirpate the tumor. Accordingly, I enlarged the incision to about five inches in length, and very readily turned it out of the abdomen. The pedicle was soon discovered on the left side; it was small, but very short. Ligating this with a strong cord made of silk threads, I cut it close off, and returned it to the abdomen. The wound was then closed by interrupted silver sutures which involved the peritonæum, and dressed with cold-water dressing, held in place by the obstetric bandage. The patient, who had been kept under the influence of ether not quite an hour, was now put to bed, and warm bottles were applied to her feet, and ten drops of Magendie's solution of morphine were thrown into the areolar tissue of the arm by the hypodermic syringe.

Just after the operation I felt the pulse, found it beating at the rate of 160 to the minute, and so feebly as to give me great apprehension as to whether the patient would not die on the table. After she had slept for an hour, the pulse sank to 140, and became stronger, but it never became less frequent. When consciousness was restored, the patient seemed much depressed in mind, declared that she knew she was going to die (she had been quite sanguine before the operation), moaned constantly, and looked wild and unsettled. Throughout the next day this singular condition continued. She took milk-punch when urged, but desired no food, and nothing to drink except ice water. I saw her at midnight on the second night after the operation, and it was then evident that collapse was approaching. In spite of continued dry warmth kept up at the feet, and as high as the knees, the extremities became cold; a clammy perspiration broke out over the whole surface, and toward morning the patient died.

A *post-mortem* examination revealed no trace of peritonitis and no secondary hæmorrhage.

The tumor, when placed upon a table and palpated, was so deceptive in its apparent yielding of fluctuation, that it was even then declared to contain fluid which had not been reached by the trocar, and this view was entertained until it was bisected. It was found that it consisted of loose fibrous elements, forming numerous loculi, about the size of a hickory-nut, which were filled with a honey-like material. After section had allowed what was computed as about three pounds of this material to flow away, the tumor weighed a little more than fourteen pounds.

To one not familiar with the difficulties attendant upon the diagnosis of these cases, and their differentiation from cystic disease, it may appear astonishing that so grave an error should have been made in this case. They who have encountered them will readily agree that not only is diagnosis very difficult, but often impossible, without exposing the patient to the risks of paracentesis. In this case I did not resort to this explorative procedure, because my mind did not admit a doubt as to the true nature of the tumor. On two other occasions I was, with others, similarly deceived: one was a case that I saw in consultation with Dr. Peaslee, and in which he subsequently made an explorative incision that proved fatal; the other was removed by a long abdominal incision by Dr. O'Reilly, the patient dying on the seventh or eighth day.

Case III.—*Alveolar cancer of left ovary; ascites; removal of cancer; return of pedicle to abdomen; death of patient on eighth day, from septicæmia.*

Mary McC., aged twenty-one years, single, a cook by occupation, was sent to me by her employer on account of an abdominal enlargement. Upon examination I found her very sallow, almost jaundiced in appearance, very large about the abdomen, and exceedingly weak. She informed me that just one year before that time, she had noticed a slight abdominal enlargement, which had steadily and rapidly increased. At the same time she had emaciated rapidly, grown very weak

and low-spirited, and now felt that, unless relieved very soon, she would die from exhaustion.

Physical exploration revealed a large accumulation of fluid in the peritonæum, and, in addition, a round tumor occupying the whole of the left side of the abdomen.

Although the case was not looked upon as a favorable one for operation, it was determined that, since extirpation offered the best chance for the saving of life, it should be resorted to. Accordingly, in the presence of Drs. Otis, Swift, Reynolds, Finnell, and Hull, I undertook the operation.

The patient having been anæsthetized with ether, I cut down slowly through the abdominal walls into the peritonæum. Instantly a large amount of peritoneal fluid escaped, a much larger amount, indeed, than had been computed in the diagnosis. After its escape, I found in the left side of the abdomen a solid mass about the size of a large cabbage, and resembling in feel and appearance an ordinary cauliflower. This was attached to the broad ligament at about the point ordinarily occupied by the ovary. It was too large for removal through the small opening which I had made, but this being enlarged, it was readily turned out. Securing the pedicle, which was short, by two strong hempen ligatures passed through its centre, it was returned, after removal of the growth, to the abdomen, and the abdominal incision closed by interrupted silver sutures.

The patient rallied well after the operation. She was kept upon beef-tea, milk, and gruels, and quieted by administration of opium. Her pulse kept up to about 100, respiration was normal, and nothing existed to excite alarm except the extreme nervous depression of the patient. She asserted that she would certainly die, and really seemed convinced that such would be the case. With the exception of this symptom she appeared to be progressing favorably until the seventh night. Then she seemed more than usually nervous and excitable, and desired to see the priest, who was accordingly sent for.

On visiting her early on the morning of the eighth day, I found that a great change had come over her during the night. Her eyes were wild and haggard, her face maniacal,

her tongue red and dry, and she constantly talked in an incoherent and violent manner, as is so often found to be the case in puerperal mania. As I entered the room, she covered her head with the bedclothes, and screamed out that I had leagued with the priest to murder her. Nothing would pacify her, or dissuade her from this view. After soothing her for some time, I succeeded in getting near enough to her to find that the pulse was beating at 160 to the minute, and that the breath yielded a sweetish odor like sugar-cane. I was now convinced that she was suffering from septicæmia, and that the mania which had supervened was due to it. But, even with this knowledge, nothing could be done in the excited state of the patient. She remained in the maniacal state which I have described till evening, when she sunk into coma and died. No *post-mortem* examination could be obtained.

Case IV.—*Multilocular ovarian cyst; removal by short incision; pedicle ligated with silk, and returned to the abdominal cavity; recovery.* History recorded by Dr. Jas. L. Brown.

Miss C. W., twenty-two years of age, consulted Dr. Thomas in the early part of December, 1867, with reference to an abdominal tumor which she had first noticed nearly a year previously, and which had been growing rapidly during the past six or seven months.

She stated that her general health had been excellent until September, 1866, when there began to be some irregularity in her menses. The periods became more frequent, occurring at intervals varying from eight days to a fortnight, the duration and quantity of the flow being about the same as before. In a short time her general health began to be impaired, and medical advice was sought on account of the menorrhagia which was supposed to be the cause of her ill health. Failing to receive any benefit from the physician first consulted, other advice was sought, and no less than twelve physicians, nearly all of them homœopathic practitioners, were consulted without avail, before Dr. Thomas was asked to see the case. No vaginal or other physical examination was ever made or proposed by any of these gentlemen. The existence of the tu-

mor in the abdomen was first noticed by Miss W. some three or four months after the disturbance of the menses. At first she merely observed a hardness, which seemed to make its appearance with the menstrual flow and subside with its cessation. In a few weeks, however, this hardness was found to be persistent and to be steadily increasing in area. With the growth of the tumor there was a corresponding depreciation of the patient's health, which had become very greatly impaired when she first was seen by Dr. Thomas. The menorrhagia was persistent during the whole of this period, the intervals never exceeding two weeks, and rarely extending beyond ten or twelve days. On examining the case, Dr. Thomas found no difficulty in recognizing the presence of a cystic tumor of the ovary, and recommended its removal by ovariotomy. The recommendation was accepted by the patient and her friends, and the operation performed December 15, 1867, by Dr. Thomas, with the assistance of Drs. E. R. Peaslee, J. B. Reynolds, Mintzer (of Philadelphia), and J. L. Brown. The external incision through the integuments was about three and a half inches in length, the internal incision through the peritonæum being about half an inch less. The tumor was found to be multilocular, and the main cyst on being tapped discharged a chocolate-colored fluid of about the consistence of cream. A second cyst about half as large contained a clear gelatinous fluid of much greater consistency. After evacuating these and several smaller cysts, the sac was readily removed through the opening, no adhesions existing anywhere. The pedicle, which sprang from the right side, was transfixed by a needle armed with a double silk ligature and tied in segments, each ligature including one-half of it. The actual cautery was then applied to the cut edge, and the charred portions pared off with a scalpel, after which the pedicle was returned to the abdomen.

A small quantity of blood which had found its way into the pelvic cavity was then carefully sponged out, and the wound was closed with six wire sutures, between which were inserted five pins after the manner practised in operations for harelip. A layer of soft cotton was placed over the wound, and an ordinary obstetrical bandage around the abdomen. The patient was then placed in bed, and ten drops of Magen-

die's solution of morphine administered. The whole duration of the operation, including the anæsthetizing, was just two hours.

8 P. M.—Patient entirely recovered from the effects of the ether. No pain or nausea. Pulse 84, and tolerably full.

16*th*, 9 A. M.—Passed a comfortable night, but did not sleep much. Pulse 86. No pain or nausea. Used catheter. 8½ P. M.—Begins to be troubled with flatus. Otherwise comfortable. Pulse 108. No nourishment except two tumblerfuls of milk. Has been kept moderately under the influence of morphine. Used catheter.

17*th*, 8½ A. M.—Passed a good night. No morphine since 9 last evening. Pulse 84. Skin cool and comfortable. Mind bright and cheerful.—12 P. M. Condition about the same as in the morning. Has thus far taken no nourishment but milk, of which she drank about a quart to-day. No trouble from flatus since yesterday. Still obliged to use catheter.

18*th*, 9 A. M.—Passed a good night. Pulse 84. Condition about the same as yesterday morning.—11 P. M. Has taken no morphine in twenty-four hours. Begins to suffer from irritability of the bladder; otherwise quite comfortable. Pulse 88. Milk diet only.

19*th*.—Suffering some distress from irritability of the bladder; otherwise comfortable. In the evening was able to evacuate the bladder without the catheter for the first time since the operation. All the pins were removed to-day. Pulse 90.

20*th*.—Pulse 96. All the sutures taken out to-day. Patient comfortable, but quite weak. Ordered egg-nogg, sherry wine, and quinine. Pulse rose in evening to 108.

21*st*.—Better in every respect. Pulse 86, and full.

The convalescence of the patient was now uninterrupted until the 31st of December, when she was taken with an attack of peritonitis, which was confined to the right iliac region, and which, although it assumed quite a threatening aspect for two or three days, finally yielded to treatment, and the patient made a good recovery. The menstrual function was reëstablished about two months after the operation, and has since been perfectly regular in every respect.

P. S.—Since the foregoing account was written, the patient has been married.

Case V.—*Multilocular ovarian tumor; removal by short incision; pedicle treated by clamp; recovery.*

Mrs. Y., aged forty years, a native of New Jersey, married, and the mother of a large family, consulted me in the month of March, 1869, by advice of Dr. Van Riper, of Passaic, under whose care she had been. The patient was a thin, wiry, and enduring woman, who had enjoyed good health up to one year before the time at which I saw her. At that time she noticed an abdominal enlargement. This gave her no anxiety, as she supposed it to be due to pregnancy. She was somewhat surprised, however, to find that, in spite of its steady increase, she still menstruated, and as her periods occurred every two weeks after the sixth month was passed, she became alarmed and sought medical advice. For about six weeks before the operation which I am about to describe, she suffered from abdominal pain, but until that time she had not done so. About the same time she lost appetite, became somewhat depressed in spirits, and failure in strength and flesh was observed.

When I saw the patient in March, I found an irregular nodulated tumor filling the abdomen. Toward the left lateral surface of the mass a protuberance, equal in size to the head of a newly-born infant, was formed, and below this others of less size could be discovered. Percussion over the abdominal surface yielded dulness, and palpation gave fluctuation distinctly. Vaginal touch revealed the uterus pressed forward and upward, and discovered no protrusion in Douglas's *cul-de-sac*.

I looked upon the case as one of multilocular ovarian cyst, and advised operation, which was determined upon, and accordingly performed on the 26th of April, 1869, in presence of Drs. Willard Parker, C. Van Riper, Robert Stewart, W. J. Cadmus, J. H. Kenworthy, Garnet Terhune, R. A. Terhune, James L. Brown, and W. Linsley.

The day was clear and the weather very comfortable. The patient being placed upon her back, on a firm table, before a

window admitting a good light, ether was administered by Dr. Stewart. I then made an incision of two inches in length in the median line, exposed the tumor, and plunged in a large trocar and canula. There instantly gushed forth an albuminous looking fluid, which flowed until the largest cyst was emptied. Then turning the canula so as to plunge it into two others, which were quite large, I emptied these, and easily withdrew the sac, which was free from adhesions. The pedicle was then secured by a clamp, and the wound closed by interrupted silver sutures.

The time occupied in the operation was forty-five minutes; the weight of the tumor twenty pounds; and the amount of fluid removed from it a little over two gallons.

Subsequent to the operation the case was carefully watched by Drs. Van Riper and Stewart, and the details which follow are taken from notes by the latter gentleman.

"Three hours after the operation, pulse 60, slightly intermittent; surface cold; expression natural; no pain; says she feels happy; urine voided naturally; slight nausea. One grain of opium was given in pill.

"*April 27th.*—Rested well; expression good; no pain; pulse 70; tongue clean; urine voided naturally; respirations 20 to the minute. She was given to-day beef-tea and milk, and just enough opium to quiet restlessness.

"*April 28th.*—Called to patient on account of great pain down left thigh; drew off urine with catheter, and gave one grain of opium, which relieved her. Pulse 60; respiration 20.

"*April 29th.*—Pulse 72; respiration 20; stump dressed with carbolic acid."

From this time onward the notes vary so little from those just given that it is useless to state them. The patient went on to recovery without an unfavorable symptom. On the seventh day after the operation the clamp was removed and the sutures withdrawn. The whole abdominal wound was found closed by first intention, except just around the pedicle. In a fortnight after removal of the tumor, the patient sat up in bed. Now, six months after the operation, she declares herself to be in better health than she has experienced for many years.

CASE VI.—*Multilocular ovarian tumor; firm adhesions; pedicle treated by clamp; recovery.* Notes by Dr. BENJAMIN RIGGS.

Johanna Murphy, aged forty, born in Ireland, a widow, was admitted to Bellevue Hospital, April 29, 1869.

The patient states that she has borne three children; that all her confinements were natural, and without bad results.

She menstruated regularly till September, 1868, when she was seized with flooding two weeks before the proper time of menstruation. During the three months following she did not menstruate at all. In October, 1868, she first noticed a swelling of the abdomen, which since that time has steadily increased, but she does not know that it commenced on either side. From January to March, 1869, she menstruated regularly. In March she had a second attack of flooding, lasting six days, and leaving her very weak. Two weeks before admission was flooding for about a week, and was much reduced in strength.

Physical Signs on Admission.—The patient has a tumor of the abdomen, fluctuating at all points, dull on percussion, excepting tympanitic resonance on the left side, extending from the ensiform-cartilage to the pubes. Measurement between anterior-superior spinous process through the umbilicus twenty and a half inches, largest girth thirty-five and a half inches.

On vaginal examination, the uterus is found movable, and no fluid seems to fill the *cul-de-sac*. The tumor does not seem to sag much in the flanks when the patient lies down. Some abdominal pain is complained of, and the patient is low-spirited, wanting in appetite, and somewhat emaciated, though always of spare habit. There seems to be some mental derangement: she attributes her tumor to a rattlesnake which she supposes she swallowed while drinking from a pool some time ago.

In May diuretics were tried without effect upon the tumor, which increased steadily though very slowly. During the early part of June a tonic treatment was adopted, and a generous diet with some stimulants allowed, preparatory to an operation. In May and June there were several irregular and small discharges of blood from the uterus.

On the 18th of June, the patient was in fair condition and spirits, and Dr. Thomas decided to operate. An anæsthetic being given, an incision about two inches long was made in the median line between the umbilicus and the pubes. On reaching the sac, a trocar was introduced with a canula of such construction that the sac and external coverings were clamped together, and leakage into the peritonæum prevented. Several cysts were now discovered and successively emptied. The large one, which was first reached, contained clear, viscid fluid in large quantity. Two others contained grumous fluid full of flocculent lymph. The whole tumor was but slightly adherent in front, more strongly attached behind and below.

After evacuating all fluid contents and separating the attachments, the mass was withdrawn through the original opening, which was slightly enlarged before this could be done. The pedicle, of considerable length, was cut and retained by a clamp outside the wound, which was sewn up so as to grasp it tightly. Immediately after the operation there was considerable shock. About thirty minims of Magendie's solution of morphine were given hypodermically through the night, and eight ounces of whiskey by the mouth. Next day the pulse was full and under 100, no pain or restlessness. Urine drawn off every four hours. Wound dressed with weak solution of carbolic acid. In the evening there were restlessness and some vomiting; skin hot and pulse rapid. Fifteen minims of Magendie's solution of morphine were given as before.

June 20th, A. M.—Slept badly. Stomach irritable all night. Fifteen minims of the morphine solution were given hypodermically.

June 21st.—Better, pulse about 80. Has some appetite.

June 22d.—Pulse 80. Scarcely any pain. Condition improving.

June 23d and 24th.—Pulse about 100. Appetite and general condition still improving.

June 25th.—A week, less five hours, after the operation, the clamp was removed. A small abscess in the abdominal walls opening into the wound, treated by charcoal poultices.

June 26th.—Bowels moved twice spontaneously. From this time convalescence went on rapidly without a bad symp-

tom, and the patient was discharged perfectly well about the end of July. No abnormal increase in the size of the abdomen occurred from the time of operation until that of discharge.

Case VII.—*Multilocular ovarian cyst; removal of four-fifths of the sac; pedicle and ligatures left in the vagina; death from peritonitis.*

Mrs. Van T., a native of Holland, forty-five years old, married, mother of one child; was seen by me in consultation with Dr. N. S. Drake, of Brooklyn, in June, 1869.

The tumor had been first observed about eighteen months before I saw her, and had steadily increased in spite of a variety of plans of local and general treatment which had been pursued under the advice of physicians whom she had consulted before calling upon Dr. Drake. No diagnosis had been made before Dr. Drake saw her. He at once recognized the nature of the case, and requested me to see her in reference to operation.

The patient, at the time I first saw her, was in good general condition, not emaciated, and quite hopeful as to the issue. The abdominal surface yielded dulness on percussion, and the sense of fluctuation could be readily appreciated. As there were no obscure points to be settled by paracentesis, I proposed operation at an early day. This was gladly acceded to, and accordingly on Sunday, June 27th, ovariotomy was performed in presence of Drs. Drake, Hutchison, G. K. Smith, Turner, Simmes, and Mulhallan, of Brooklyn; and Drs. Peaslee, Sands, and Jas. L. Brown, of New York.

The patient having been brought fully under the influence of ether, an incision three inches long was made over the median line between the symphysis pubis and the umbilicus. The peritonæum being reached, a steel sound was swept over the circumference of the tumor, and by it universal, though very delicate, adhesions were found to exist. These were readily broken down, and a large trocar and canula were plunged into the cyst. A clear fluid like spring-water flowed away, and the cyst collapsed. This fluid was found to be slightly albuminous by the tests of heat and nitric acid. It resembled pre-

cisely that which flows from cysts of the broad ligaments, although this cyst was certainly one of ovarian character.

Traction being made upon the emptied sac, it came forth for about four-fifths of its extent, but farther than this it could not be drawn. I then enlarged the abdominal opening, and found that from the pelvis sprang extensive and powerful adhesions which bound down the whole base of the sac. I strove to break these, but it was slow and painful work, and in the end I was forced to leave in the abdomen about one-fifth of the sac. The pedicle was so short that I could not employ a clamp, and so large that I dared not leave it in the abdomen. I therefore secured it with a strong hempen cord, cut an opening into the vagina through Douglas's *cul-de-sac*, and left cord and pedicle in the vagina.

The peritoneal cavity was now so filled with clots of blood, that I did not wish to keep the patient anæsthetized for so long a time as sponging them out would require, so I introduced through the abdominal opening the long nozzle of a Davidson's syringe, and cleansed the abdomen by a stream of warm water which swept all accumulations before it as it escaped into the vagina.

The patient was under the influence of ether from 3 to 5 o'clock. The pulse, which was 80 to the minute at the commencement of the operation, remained so until the evening of the next day, about twenty-four hours, when it rose to 112. Symptoms of peritonitis then developed themselves, and she died on Wednesday at 5 P. M., precisely seventy-two hours after the operation. Subsequent to the operation she was fed on beef-tea and milk, pain relieved by opium, and the bladder kept empty by the catheter.

CASE VIII.—*Alveolar cancer of both ovaries; removal by ovariotomy; pedicles treated by actual cautery; death from peritonitis.* Notes by Dr. BENJAMIN RIGGS.

"Elizabeth Harrison, aged twenty-seven, born in New York, married, was admitted into Bellevue Hospital, April 28, 1869.

"Patient is a remarkably robust woman. Has been married for two years, but has never been pregnant. She menstruated regularly every three weeks till January, 1869. Since January

menstruation has been irregular and painful, occurring, on an average, about once in two weeks, with a greatly increased loss of blood. In January she first noticed a swelling in the left iliac fossa. Pain in the same region commenced about a week later. This swelling has rapidly increased, accompanied by a good deal of pain. The tumor is pyriform; no sagging in the flanks. Obscure fluctuation only can be felt. June 9th, the abdomen is very full and tense, and there is excessive pain. The fluctuation is very obscure, and Dr. Thomas thinks the tumor may be colloid cancer. An exploratory trocar brought away fluid. Tapping was at once resorted to, and from four to five gallons of clear fluid were evacuated, to the patient's great relief. The fluid was alkaline, viscid, and highly albuminous. For four days the patient was kept quiet by opiates, some soreness being complained of in left iliac fossa. This had disappeared on the fifth day, and the bowels were moved by enema. It was determined, with patient's consent, to perform an operation for the removal of the tumor, now presumed to be an ovarian cyst.

"*June 26th.*—Bowels thoroughly moved. June 27th, one grain of opium night and morning. June 28th, A. M., one grain of opium. 2½ P. M., after freezing the parts, an incision was made down to the sheath of the rectus muscle, extending in the median line from an inch below the umbilicus nearly to the pubes. The fat through which the incision was made was fully three inches thick. By 3½ P. M. all oozing from the wound having ceased, the patient was anæsthetized, and the incision carried down to the peritonæum, which since the tapping had partially refilled, but the abdominal walls were by no means tense. On opening this membrane, there was a gush of clear yellow fluid, and exploration showed that no ovarian cyst existed; the fluid present being contained in the peritoneal sac. Attached to each ovary were found soft fungous growths—these were removed, and the parts from which they sprang seared with a red-hot iron. The peritonæum was washed with a weak solution of common salt, and, all hæmorrhage having apparently ceased, the wound was closed. Deep quill sutures were used, and the superficial edges of the wound were held together by pins and twisted silk at some points, at others by ordinary in-

terrupted wire sutures. Anæsthesia was continued, in all, one hour and a half. Immediately before the administration of the anæsthetic, ten minims of Magendie's solution of morphine were given hypodermically.

"After the operation, the patient slept through the afternoon and evening till about midnight, when there was some vomiting. Toward morning there was recurrence of vomiting, and she suffered pain in the abdomen. Her pulse was 105. About half a grain of morphine was given during the night.

"*June 29th*, 10 A. M.—Abdominal pain is complained of. Pulse 120; quarter-grain of morphine given; 2 P. M., vomits considerably. Later in the afternoon febrile excitement ran high, but she complained less of pain. During the night morphine was given.

"*June 30th*, A. M.—Pulse diminished in frequency and hardness; skin cooler. At night she grew worse again, pulse 140; skin hot and dry. Toward midnight she became quieter, and slept.

"*July 1st.*—Vomits a good deal this morning; P. M., vomiting persistent; pulse 120. She takes nothing but a wineglassful of champagne every half hour, followed by a little carbonic-acid water.

"*July 2d.*—Vomiting persisted, and pulse remained about 120 till 3 A. M., when the patient began to fail in strength, the pulse increasing in frequency. The extremities became cold, and her face was covered with a clammy sweat. At noon the pulse was 140, and irregular; at 2 P. M., 165; at 4 P. M., she died.

"*Autopsy, July 3d.*—Brain not examined. Heart 11 oz. in weight; flabby; valves normal. Lungs—hypostatic congestion at their bases; the right lung adherent. Liver, 3 lb. 10 oz. in weight; adherent to diaphragm and stomach by old false membrane. Kidneys—nothing noticeable; weight 10 oz. Spleen, 3 oz. Bladder—mucous membrane congested.

"An incision 7½ inches long, extended through the abdominal walls and peritonæum. Peritonæum separated from rectus muscle at its lower portion, and the cellular tissue at this point partly gangrenous. All the intestines adherent to each other and to the abdominal walls by recent lymph. Peritoneal cavity

contains about 8 oz. of dirty-brownish sero-purulent fluid. There is considerable injection of peritoneal vessels.

"The organs in the pelvis adherent to one another by old false membranes. Left ovary gone, its site marked by lacerated tissue. Right ovary lacerated at one point, the major part of it remains *in situ*, it is swollen and vascular, and its vesicles for the most part contain small clots of blood.

"Fallopian tubes, convoluted, dilated, adherent; the left contains bloody muco-pus. Uterus contains nothing but a small mucous polypus in its body."

I have spoken of this case and of Case III., as instances of alveolar cancer, not because I regard them as being true carcinomatous disease, but because the question of their pathology is not settled, and I prefer rather to abide by the old nomenclature than to discuss the matter. From a clinical stand-point, they certainly do not appear to belong to the family of true cancer. The appearance of the patient, the hue of the complexion, and the constitutional condition of those who are affected by them, seem to contradict such a supposition. To the touch and sight they resemble very closely cauliflower growths of the cervix uteri, and seem to belong to the family of vegetating epithelioma. My colleague, Dr. H. B. Sands, kindly examined for me a portion of the growth taken from Case VIII., and thus describes its appearance under the microscope.

"Sections of the tumor, when examined under the microscope, exhibited the following elements: 1. Connective tissue, slightly vascular, arranged in the form of villi, either club-shaped or conical. 2. Flat epithelium, in several layers, covering the villi, but not present in their interior. The appearances observed were those commonly seen in epithelial or cauliflower growth."

CASE IX.—*Multilocular cyst, containing numerous large cysts; removed by short incision; pedicle treated by clamp; recovery.* Notes by Dr. C. S. WARD.

Annie Farrell, aged fifteen years, single, presented herself at the clinic at the College of Physicians and Surgeons, October 15, 1869, on account of an abnormal enlargement, which

she first noticed about one year and a half before, and which had been steadily increasing until it had now attained a size exceeding that of the uterus at full term of pregnancy. At the age of thirteen she menstruated once, since which time there has been no menstrual flow. Owing to this circumstance she had been led to believe that her increased size might be due to retention of the menses; in fact, she stated that this opinion had been expressed by some physician whom she had consulted. She first noticed the tumor in the left iliac region; it appeared to be smooth, and globular in shape. Five or six months later she noticed that it began to be irregular in outline and nodulated. Within the last three months her general health had begun to fail, and she became much reduced both in flesh and strength. Her face was pale and sallow, and her general appearance cachectic. On physical examination the abdomen was found distended with a fluctuating tumor, imbedded in which could be felt three smaller tumors of firm consistence. These were on the left side, and conveyed the impression of being solid masses. With a view to facilitate diagnosis as well as to afford temporary relief to the patient, Dr. Thomas tapped the tumor on the following day; about a gallon of clear fluid, of the consistence of thick mucilage, was discharged, which greatly relieved the patient. The seemingly solid tumors could now be felt more distinctly, and conveyed the feeling of obscure fluctuation.

The girl's general condition became much improved, although the tumor began to refill, and at the end of three weeks was again as large as before. Ovariotomy now being the only resource, this operation was resorted to on the 4th of November, 1869, in the presence of Drs. Peaslee, Budd, Norcom (of N. C.), Burgess, Rowe, James L. Brown, H. F. Walker, and C. S. Ward. The patient being fully anæsthetized, an incision three inches in length was made in the median line, midway between the umbilicus and symphysis pubis, down to the peritonæum; after all hæmorrhage had ceased, this was lifted, snipped, and slit upon a director, allowing a slight flow of serum, and exposing the tumor. A sound was swept around the tumor, and only one or two slight adhesions found, which were gently broken. A trocar was then plunged into the

principal sac, which discharged a clear fluid like that drawn off at the previous tapping, and through this sac about a dozen other cysts of various sizes were punctured and the contents evacuated. The fluid in all these sacs was clear and limpid, but in some of much greater consistence than in others. All the cysts being emptied, the sac was readily drawn out and the pedicle secured by a clamp; the tumor was then separated and the actual cautery applied to the cut surface of the pedicle. The other ovary was examined and found normal. The peritoneal cavity was carefully cleansed by soft sponges squeezed out of warm water. The wound was closed by five sutures of iron wire passed through the skin and peritonæum, the pedicle being left at the lower angle of the incision; a pledget of lint soaked in a carbolic-acid solution was laid over it, and a binder applied, as after parturition. Five minims of Magendie's solution were injected subcutaneously and the patient placed in bed. Time of operation forty minutes.

Progress of Case.—November 4th.—At 4.30 (immediately after operation) pulse 88; 10.30 P. M., 104; $\frac{3}{4}$ gr. morphia given.

November 5th.—9 A. M., pulse 100; rested well during the night; 6 P. M., pulse 122; skin moist, sleeping quietly, has had no pain.

November 6th.—9 A. M., pulse 120; took $\frac{1}{8}$ gr. morphia last night and rested well; 6 P. M., pulse 104; patient cheerful and comfortable, has taken three pints of milk and six ounces of beef-tea to-day.

November 7th.—10 A. M., pulse 102; rested well during the night; no morphia given; 6 P. M., pulse 100; patient in fine spirits; has taken milk, toast, beef-tea and steak.

The patient has complained of no pain since the operation, no tenderness on pressure, no tympanites, wound looking well. Subsequent to this period the patient has gone on steadily improving until the date at which this manuscript goes to press, November 15.

In this report are embodied nine cases of ovariotomy. Five of them resulted favorably and four unfavorably. Out of the four unfavorable cases, two were instances of so called alveolar cancer, one a solid tumor, and one a cyst, the whole of which could not be removed. Six cysts were operated upon. Of

these, five recovered, and that which ended fatally was a case in which one-fifth of the sac had to be left in the abdomen.

The operation of ovariotomy was only in two cases preceded by that of paracentesis. This was due to my desire to avoid an additional risk to my patients. I believe, however, that, in thus avoiding paracentesis, I committed a grave error. A more frequent resort to it would have cleared up many obscurities as to diagnosis, and thus prevented resort being had to ovariotomy in at least one of my fatal cases. My experience thus far will induce me, in the future, to resort to it much more generally than I have done in the past.

Case IX. recovered without an unfavorable symptom. The clamp was removed and sutures withdrawn on the eighth day.